

# INPLASY PROTOCOL

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**Conflicts of interest:**  
The authors declare that they have no conflicts of interest.

## What Factors Affect the Methodological and Reporting Quality of Clinical Practice Guidelines for Osteoporosis? Protocol for A Systematic Review

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**Review question / Objective:** To assess the methodological and reporting quality of clinical practice guidelines for osteoporosis, and to compare and synthesize the recommendations to find the difference of current evidence.

**Condition being studied:** Osteoporosis is a disease with a high prevalence and low treatment rate, which poses a serious threat to the lives of patients and brings a heavy economic burden to families and society. Clinical practice guidelines (CPGs) provide vital guidance for the decision-making of disease management. Up to now, different countries, regions, and organizations have issued a certain number of guidelines for osteoporosis, but the recommendations in different guidelines are inconsistent. This protocol plans to evaluate the methodological and reporting quality of the CPGs for osteoporosis and then make a comparative analysis of the recommendations in the CPGs.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 10 July 2020 and was last updated on 10 July 2020 (registration number INPLASY202070031).

### INTRODUCTION

**Review question / Objective:** To assess the methodological and reporting quality of clinical practice guidelines for osteoporosis, and to compare and synthesize the recommendations to find the difference of current evidence.

**Rationale:** There are differences in the quality of existing osteoporosis clinical practice guidelines (CPGs), and the recommendations are also inconsistent. This study will use the AGREE II instrument and RIGHT checklist to evaluate the

methodology and reporting quality of osteoporosis CPGs and conduct a comprehensive analysis of the recommendations in the guidelines.

**Condition being studied:** Osteoporosis is a disease with a high prevalence and low treatment rate, which poses a serious threat to the lives of patients and brings a heavy economic burden to families and society. Clinical practice guidelines (CPGs) provide vital guidance for the decision-making of disease management. Up to now, different countries, regions, and organizations have issued a certain number of guidelines for osteoporosis, but the recommendations in different guidelines are inconsistent. This protocol plans to evaluate the methodological and reporting quality of the CPGs for osteoporosis and then make a comparative analysis of the recommendations in the CPGs.

## METHODS

**Search strategy:** Search strategies will be performed on the following databases: PubMed, EMBASE, Web of Science, Cochrane Library, China National Knowledge Infrastructure (CNKI), Chinese biomedical literature database (CBM), and Wanfang database. In addition, the National Institute for Health and Clinical Excellence (NICE, <https://www.nice.org.uk>), Scottish Intercollegiate Guidelines Network (SIGN, <https://www.sign.ac.uk>), International Osteoporosis Foundation (IOF, <https://www.iofbonehealth.org>), Guidelines International Network (GIN, <https://g-i-n.net>), yimaitong website (<http://www.medlive.cn>), Chinese Medical Association (CMA, <https://www.cma.org.cn>) will be searched. The search strategy will be customized according to each database. Independently, two reviewers will evaluate the title and abstract and a third reviewer will evaluate the discrepant results. All the reference lists of the included clinical practice guidelines will be checked to identify any additional guidelines.

**Participant or population:** We will include clinical practice guidelines recruiting

people of Primary osteoporosis in elderly and at risk

**Intervention:** We include any kinds of interventions for osteoporosis.

**Comparator:** Not applicable.

**Study designs to be included:** Clinical practice guidelines for elderly osteoporosis patients or at risk.

**Eligibility criteria:** Inclusion criteria. (1) Issued in the form of guidelines or recommendations (2) Mainly for osteoporosis, which involves screening, assessment, diagnosis, treatment or management (3) If there is an updated relationship, the latest version is included (4) Language is restricted English and Chinese. Exclusion criteria. (1) Mainly for secondary osteoporosis, adolescent idiopathic osteoporosis or specific diseases status, such as breast cancer, gastrointestinal disease, liver disease (2) Traditional Chinese medicine CPGs (3) consensus documents or position statement documents (4) executive summary of the guidelines or translation version based on the original (5) Guidelines developed by individuals.

**Information sources:** Databases: PubMed, EMBASE, Web of Science, Cochrane Library, China National Knowledge Infrastructure (CNKI), Chinese biomedical literature database (CBM), and Wanfang database. Guidelines development institutions or professional societies: National Institute for Health and Clinical Excellence (NICE, <https://www.nice.org.uk>), Scottish Intercollegiate Guidelines Network (SIGN, <https://www.sign.ac.uk>), International Osteoporosis Foundation (IOF, <https://www.iofbonehealth.org>), Guidelines International Network (GIN, <https://g-i-n.net>), yimaitong website (<http://www.medlive.cn>), Chinese Medical Association (CMA, <https://www.cma.org.cn>) will be searched. Reference: All the reference lists of the included clinical practice guidelines will be

checked to identify any additional guidelines.

**Main outcome(s):** Methodological and reporting quality assessments of clinical practice guidelines for osteoporosis will be conducted to determine the evaluation results for each field and entry, and statistical analysis will be performed. Compare and analyze the consistent and inconsistent recommendations in the guidelines, including screening, assessment, diagnosis, treatment, and management.

**Quality assessment / Risk of bias analysis:** At least two reviewers will evaluate the methodological and reporting quality of the included guidelines and consensus by using the Appraisal of Guidelines Research and Evaluation (AGREE II) and Reporting Items for Practice Guidelines in Healthcare (RIGHT). Any disagreement will be resolved through discussion or consultation with the third reviewer.

**Strategy of data synthesis:** The intra-class correlation coefficient (ICC) will be used to assess the differences between reviews,  $ICC \geq 0.7$  indicated that there is a small difference. Calculate the scaled domain score of AGREE II for each CPGs.<sup>22</sup> The range, average, standardization deviation and median of standardization percentage in each field will be counted. Calculate the reported percentage of each item in the RIGHT checklist of all CPGs and calculate the reported number and percentage of all items in each CPGs. Regression analysis will be used to calculate the correlation between methodological and reporting quality. All statistical processes will be completed by SPSS software. Bubble charts will be used to show the differences between guideline methodology and report quality. Tables or mind maps will be used to show the results of the recommendation analysis. According to the results of data extraction, whether to conduct a subgroup analysis is considered.

**Subgroup analysis:** If sufficient evidence is available, we will plan to conduct subgroup analyses to explore the difference between

different editions, different institutes, and different type of guidelines.

**Sensibility analysis:** Not Applicable

**Language:** The language is limited to English and Chinese.

**Country(ies) involved:** China.

**Keywords:** clinical practice guidelines, osteoporosis, quality assessment, recommendations.

**Dissemination plans:** The results will be published in a peer-reviewed journal.

**Contributions of each author:**

Author 1 - Pengzhong Fang - Author 1 (1) conceived this study (2) designed the inclusion/exclusion criteria and the searching strategy (3) will be searched for the literature(4) will be collected the data and made statistical analysis(5) drafted the protocol and revised the manuscript.

Author 2 - Yamin Chen - Author 2 (1) conceived this study (2) designed the inclusion/exclusion criteria and the searching strategy(3) will be searched for the literature(4) will be collected the data and made statistical analysis.

Author 3 - Jinlei Chen - Author 3 designed a data extraction table.

Author 4 - Junhao Sun - Author 4 designed a data extraction table.

Author 5 - Jianshi Tan - Author 5 will be collected the data and made statistical analysis.

Author 6 - Ruirui Wang - Author 6 drafted the protocol and revised the manuscript.

Author 7 - Xin Wang - Author 7 (1) conceived this study (2) designed the inclusion/exclusion criteria and the searching strategy (3) drafted the protocol and revised the manuscript.